Elisa - File

Cortez III Service Corporation
NASA Goddard Space Flight Center
Code 239, Building 27
Greenbelt, MD 20771
301-286-6388/1774(fax)

# Fax Transmittal Sheet
## Page 1 of 16

Date: June 25, 2001

To: Stanley R. Schneider
Assoc. Dir. For Technology Transition
and Senior NASA Official
NPOES Integrated Program Office

Phone: 301, 427 2121
Fax: 301, 427 2164

Subject: Dept. of State Case TA 1143.01

From: ODELL YOUNG

Phone: 301-286-6388

Note: Attached is the subject case for your review and comment. Please provide your comments to me by email. NASA HQS has requested we reply within ten days.

# DTC CASE REFERRAL DOCUMENT

| ADMIN USE | DATE STAFFED | DTC CASE NUMBER |
|---|---|---|
| | MAY 31 2001 | TA 1149-01 |

APPLICANT:

| | | | | | |
|---|---|---|---|---|---|
| | Advisory Opinion | | Agreement - [Mfg], [Tech Assist], ]Distribution] | | Brokering Request |

DTC CASE OFFICER: RED

DTC Comments:

Recommendations and Comments Are Requested From:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | DTRA/LD | | NEA/RA | | DRL/MLA | | Transmittal Letter |
| | | | | | | | Attachments, stated on appl |
| X | NASA | | EAP/RSP | | OES | | Tech data/Descrip Literature |
| | | | | | | | Statement of Work |
| | ENERGY | | EUR/RPM | | PM/RSAT | | Order/Ltr of Intent/Contract |
| | | | | | | | Copy of Agreement |
| | DOT/USCG | | AF/RA | | NP/CBM | | Copy of previous Approvals |
| | | | | | | | End Use Certificate/DSP-83 |
| | COMMERCE | | WHA/PPCP | | DTC/CEB | | Import Authorization |
| | | | | | | | Other (videocassette, etc.) |
| | L/PM | | SA/RA | | DTC/ | | Nothing |
| | | | | | NP | | # of Collated Sets |
| | PKRC | | EUR/PRA | X | PM/ECNP | | |

REPLY HERE AND RETURN TO DEPARTMENT OF STATE, OFFICE OF DEFENSE TRADE CONTROLS, WASHINGTON, D.C. 20520-0206. Recommendations within 25 working days of date staffed are appreciated. **PROVIDE COMMENTS FOR ANY RECOMMENDATION TO DENY OR RETURN *WITHOUT ACTION* (RWA).**

**RECOMMENDATION & COMMENTS:**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | APPROVE | | APPROVE *WITH* PROVISO | | RWA | | DENY |

**COMMENTS:**

Typed/Printed NAME AND OFFICE SYMBOL SIGNATURE

DATE: Telephone Number:

LICENSE NO. DATE: 5/17/01

TO: DTC / ALD – Missiles and Space

FROM: Russell VanDegrift, Debi Davis, Gregory Creeser, TRW Inc.
1201-3913, (703) 276-5088, (703) 276-5024 – fax

SUBJECT: Category XV Transmittal

SUMMARY:

This is a request for a TAA between TRW, Department of National Defence, Canada, and Centre Nationale d'Etudes Spatiale (CNES) of France, to discuss operating performance and interface of the Search And Rescue Satellite Aided Tracking (SARSAT) Search And Rescue Processor (SARP), and the Search And Rescue Repeater (SARR) for the National Polar-orbiting Operational Environmental Satellite System (NPOESS).

VALUE:

The estimated value the agreement is $150,000.00 (USD) for technical assistance and defense services. No export of hardware is contemplated in this Program Definition and Risk Reduction (PDR) phase of NPOESS.

FOREIGN PERSONS:

Department of National Defence (DND)
National Defence Headquarters
Mgen Geroge R. Pearkes Building
Ottawa, Ontario, K1A 0K2

Centre Nationale d'Estudes Spatiale (CNES)
18 Ave. Belin
Toulouse, France 31401

PRECEDENT CASES INVOLVING SAME FOREIGN PERSON(S):

WHEN AUTHORIZATIONS ARE NEEDED:

September 2001

EXCLOSURE 1

TRW

TRW Inc.

Executive Offices
1001 Nineteenth St. North
Suite 800
Arlington, VA 22209
703.276.5100

May 17, 2001

Mr. William J. Lowell, Director
Office of Defense Trade Controls
PM/DTC, Room 1304, SA-1
U.S. Department of State
Washington, DC 20037

Subject: Part 126 Certification Letter

Dear Mr. Lowell:

I, the undersigned, am a U.S. person as defined in 22 CFR 120.15 and am a responsible official empowered by the applicant to certify the following in compliance with 22 CFR 126.13:

(1) Neither the applicant, its chief executive officer, president, vice presidents other senior officers or officials (e.g., comptroller, treasurer, general counsel) or any member of its board of directors is:

(a) the subject of an indictment for or has been convicted of violating any of the U.S. criminal statutes enumerated in 22 CFR 120.27 since the effective date of the Arms Export Control Act, Public Law 94-329, 90 Sat. 729 (June 30, 1976); or

(b) ineligible to contract with, or to receive a license or other approval to import defense articles or defense services from, or to receive an export license or other approval from any agency of the U.S. Government.

(2) To the best of the applicants knowledge, no party to the export as defined in Section 126.7 (e) has been convicted of violating any of the U.S. criminal statutes enumerated in 22 CFR 120.27 since the effective date of the Arms Export Control Act, Public Law 94-329, 90 Stat. 729 (June 30, 1976), or is ineligible to contract with, or to receive a license or other approval to import defense articles or defense services from, or to receive an export license or other approval from any agency of the U.S. Government; and

(3) The natural person signing the application for license, notification or other request for approval is a responsible official who has been empowered by the applicant as defined in 22 CFR 120.25 and is a citizen of the United States.

(4) I am a citizen of the United States.

Sincerely,

Russell J. VanDegrift
TRW Space & Electronics
Export/Import Compliance Manager

**Name and address of consignor and/or freight forwarder in United States:**

1. Hand-carried by TRW employee, or
2. TRW Space & Electronics Group
   One Space Park
   Redondo Beach, CA 90278
3. Arthur J. Fritz & Company
   P.O. Box 92647
   Los Angeles, CA 90009-9901
4. Fritz Air Freight
   2580 Santa Fe Avenue
   Redondo Beach, CA 90278
5. DHL Airways Inc.
   4882 W. 145th Street
   Hawthorne, CA 90250
6. Federal Express, Airborne Express, or equivalent air express couriers
7. Danza
   3700 Redondo Beach Avenue
   Redondo Beach, CA 90278
8. BAX Global (formerly Burlington Air Express)
   5500 West Century Blvd.
   Los Angeles, CA 90045
9. BAX Global (formerly Burlington Air Express)
   16808 Armstrong Avenue
   Irvine, CA 92606
10. BAX Global (formerly Burlington Air Express)
    Dept. LA 21047
    Pasadena, CA 91185-1047
11. BAX Global (formerly Burlington Air Express)
    5343 West Imperial Highway #1000
    Los Angeles, CA 90045
12. International Logistics Services (I.L.S.)
    343 North Oak Street
    Inglewood, CA 90302
13. International Logistics Services (I.L.S.)
    215 Long Beach Blvd., #321
    Long Beach, CA 90802

EXHIBIT 2

**TECHNICAL ASSISTANCE AGREEMENT**
**TAA**

This Agreement, effective as of the _____ day of _____, 2001, is between TRW Space & Electronics (hereinafter called "TRW"), an Ohio corporation, having a place of business at One Space Park, Redondo Beach, California, 90278, United States of America, Department of National Defence (hereinafter called "DND"), having a place of business at Mgen George R. Pearkes Building, Ottawa, Ontario, K1A 0K2, and Centre Nationale d'Etudes Spatiales (hereinafter called "CNES"), having a place of business at 18 Ave. Belin, Toulouse, France 31401.

WHEREAS, TRW has entered a prime contract with the U.S. Government for the Program Definition and Risk Reduction (PDRR) phase of the National Polar-orbiting Operational Environmental Satellite System (NPOESS) program that requires TRW to develop technical plans, designs and analyses for the system which include the acquisition, integration and test of leveraged sensors and delivery of NPOESS sensor packages to other Government and international agencies; and

WHEREAS, DND is providing the Search And Rescue Relay (SARR) sensor hardware for the U.S.-Canada-French-Russia SARSAT mission; and the SARSAT SARR is of a class of sensors that the NPOESS prime contractor will receive as U. S. Government Furnished Equipment (GFE); and

WHEREAS, CNES is providing the Search And Rescue Processor (SARP) hardware for the U.S.-Canada-French-Russia SARSAT mission and SARP is of a class of sensors that the NPOESS prime contractor will receive as U.S. Government Furnished Equipment (GFE); and

WHEREAS, TRW, DND, and CNES contemplate the transfer of technical data, technical assistance and services relating to sensor operating performance and interface of the SARSAT SARR and SARP to the NPOESS spacecraft will take place in Canada, France, and the United States;

NOW, THEREFORE, in consideration of the premises and the mutual covenants contained herein, the parties agree as follows:

## I. Technical Assistance

TRW will provide technical data, technical assistance and services (hereinafter called "technical assistance") to DND and CNES as set forth in Exhibit A—Statement of Work (SOW), Exhibit B—Technical Interchange Summary, and Exhibit C—Interface Requirements Document (IRD) for National Polar-orbiting Operational Satellite System (NPOESS) Spacecraft and Sensors.

The technical assistance provided by TRW to DND and CNES shall not include the following:

a. TRW proprietary software.

b. U.S. classified military security information.

DND and CNES agree to use the technical data and technical assistance only as specified in Article IV (e) hereof.

## II. Term

Subject to Article IV (a), below, this Agreement shall commence on the date hereof and continue in force for five (5) years from the date hereof, not to exceed December 31, 2006.

## III. Security Requirements

No classified information will be transferred under this agreement. Nevertheless, this Agreement shall be subject to all applicable security requirements binding upon all parties.

## IV. Required Clauses

In accordance with Title 22 of the U.S. Code of Regulations, Part 124, the following terms and conditions apply to this Agreement.

a. This Agreement shall not enter into force, and shall not be amended or extended, without the prior written approval of the Department of State of the U.S. Government.

b. This Agreement is subject to all United States laws and regulations relating to exports and to all administrative acts of the U.S. Government pursuant to such laws and regulations.

c. The parties to this Agreement agree that the obligations contained in this Agreement shall not affect the performance of any obligations created by prior contracts or subcontracts which the parties may have individually or collectively with the U.S. Government.

d. No liability will be incurred by or attributed to the U.S. Government in connection with any possible infringement of privately owned patent or proprietary rights, either domestic or foreign, by reason of the U.S. Government's approval of this Agreement.

e. The technical data or defense service exported from the United States in furtherance of this Agreement and any defense article which may be produced or manufactured from such technical data or defense service may not be transferred to a person in a third country or to a national of a third country except as specifically authorized in this Agreement unless the prior written approval of the Department of State has been obtained.

f. All provisions in this Agreement which refer to the United States Government and the Department of State will remain binding on the parties after termination of this Agreement.

## V. Publication

No press release or other disclosure with respect to this Agreement or any activity in connection therewith will be made by any party except with the consent of all others.

## VI. Proprietary Information

Except otherwise provided in this Agreement, all information (except for (i) information that is otherwise in the public domain at the time of disclosure or thereafter through no fault of the receiving party, (ii) information that is known by the recipient at the time of disclosure or (iii) information disclosed to receiving party without restriction by a party that is not a party to this Agreement) disclosed by any party to another party hereunder will be held in strict confidence and safeguarded by the recipient to the same extent that the recipient safeguards its own proprietary information. Any such proprietary information disclosed by a party shall be used by the recipient only for the purposes set forth in this Agreement, but in no event shall the recipient use the proprietary information of a disclosing party for the manufacture or construction of any component without the express written consent of the disclosing party.

## VII. Notice

Any notice given hereunder shall be mailed postage prepaid to the following respective addresses:

If to DND, to:

Department of National Defence
National Defence Headquarters
Mgen George R. Pearkes Building
Ottawa, Ontario K1A 0K2
Attention: J.Y.R. Lapointe

If to CNES, to:

Centre Nationale d'Etudes Spatiale
18 Ave. Belin
Toulouse, France 31401
Attention: Mr. Patrick Vincent

If to TRW, to:

TRW Space & Electronics
TRW Inc.
One Space Park R10-2352
Redondo Beach, CA 90278
United States of America
Attention: Mr. Edward H. Mitchell

or to such other address as either party shall have so notified to the other.

## VIII. Assignment

No party will make any assignment of its rights or obligations hereunder in whole or in part, except as to the receipt of payments, without the consent of the other parties.

## IX. Relationship

Except as may be expressly provided to the contrary herein, neither anything in this Agreement nor any acts of the parties shall create the relationship of principal and agent, or partners, or joint ventures, or of any equivalent association between the parties.

## X. Limitation of Liability

In no event will any party hereto be liable to the other party for loss of profits or for any indirect, incidental, special, or consequential damages, however caused, whether as a consequence of the negligence of the one party or otherwise. No rights or obligations other than those expressly recited herein are to be implied from this Agreement. No party makes any warranty or representation as to information transmitted pursuant hereto.

## XI. Miscellaneous

This Agreement constitutes the entire understanding and agreement of and among the parties with respect to the subject matter hereof, and supersedes all prior representations and agreements, verbal or written. This Agreement shall not be varied, except by an instrument in writing of subsequent date, duly executed by an authorized representative of each party. Paragraph headings herein are for convenience only and shall not limit in any way the scope or interpretation of any provision of this Agreement. The validity, construction, scope, and performance of this Agreement shall be governed by the laws of the State of New York, U.S.A., applicable to agreements made and to be performed wholly within such jurisdiction.

In witness whereof the parties have caused this instrument to be executed as of this _____ day of _____, 2001.

TRW Inc.
TRW Space & Electronics
of the United States of America

By: _____

Title: _____

Department of National Defence
of Canada

By: _____

Title: _____

Centre Nationale d'Etudes Spatiales
of France

By: _____

Title: _____

## Exhibit A to TAA

## Statement of Work

## Applicable to the Search and Rescue Satellite-Aided Tracking (SARSAT) for NPOESS

1. Allocate mission requirements to the space segment and subsystems, and identify associated cost/performance/supportability/risk/schedule sensitivities and trades.

2. Define SARSAT performance for a smooth transition to Engineering Manufacturing Development (EMD) to achieve the system requirements within schedule constraints.

3. Define, coordinate, and obtain approval of internal and external interface requirement.

4. Identify risk in critical areas, develop risk mitigation plans.

5. Conduct logistics support analysis of the space segment operations for NPOESS. Conduct logistics support analysis, fully integrated within the systems engineering process, of the space, Interface Data Processor (IDP), and C3 segment operations of NPOESS to define support requirements. Implement the planning process and activities necessary to support test & evaluation (T&E) and subsequent EMD efforts.

6. Support the development of a test and evaluation program for government and contractor design test & evaluation (DT&E) and initial operations test & evaluation (IOT&E).

7. Develop plans to accept government furnished equipment (e.g., sensors, algorithms).

8. Provide flexible and innovative management of program cost, schedule, performance, risks, contracts and subcontracts, and data required to deliver an effective and affordable system design.

9. Provide effective working relationships with the IPO, sensor contractors, other IPO suppliers, associate contractors, and external agencies.

10. Participate in working groups with the government and other IPO contractors and any sub-working groups that may arise, as appropriate.

## Exhibit B to TAA

## Technical Interchange Summary

## Applicable to the Search and Rescue Satellite-Aided Tracking (SARSAT) for NPOESS

1. Minutes of Technical Interchange Meetings and responses to action items agreed to in these meetings
2. SARSAT performance specification document and periodic revisions
3. NPOESS Spacecraft and Sensors interface requirements contained in Exhibit C: *Interface Requirements Document (IRD) for National Polar-orbiting Operational Environmental Satellite System (NPOESS) Spacecraft and Sensors*, and periodic revisions
4. Ancillary spacecraft data needed to support these algorithms
5. Simulated performance data using sensor hardware model and processing algorithms
6. Technical data related to the NPOESS PDRR program developed by TRW using independent research & development and other private funds
7. Sensor risk management document: risk identification and risk mitigation plans
8. Plans required to support a smooth transition to the NPOESS EMD phase

- sensor logistic support plan
- sensor test & evaluation plan

**Exhibit C to TAA**

**Detail for Technical Interchange Summary Item 4**

NPOESS spacecraft and sensors interface requirements contained in Exhibit C: *Interface Requirements Document (IRD) for National Polar-orbiting Operational Environmental Satellite System (NPOESS) Spacecraft and Sensors*, and periodic revisions.

Document not mailed

01.A531.RJV.AG.157
May 17, 2001

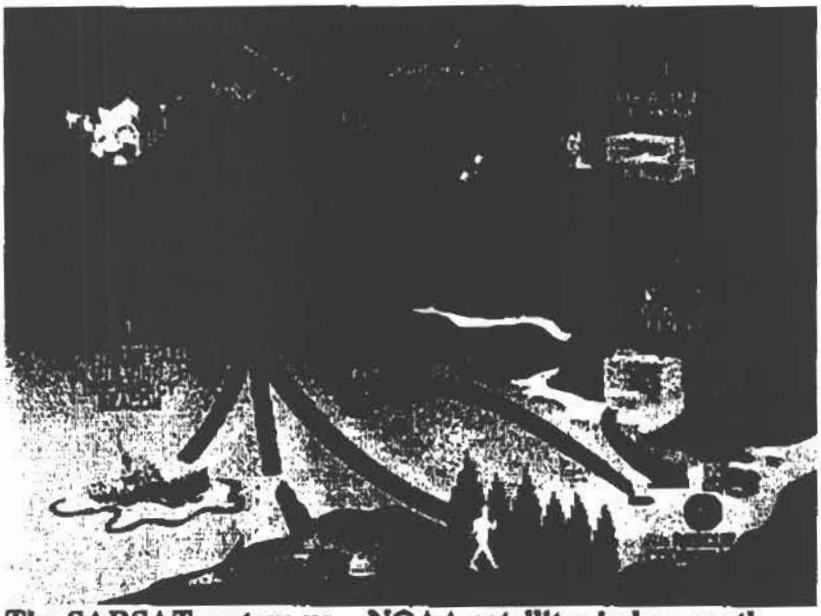
# Enclosure 3

## Background Information on SARSAT

SARSAT search and rescue satellite aided tracking

## RESCUE Totals as of 07 May 2001

- Worldwide - **11,465** persons rescued
- United States - **4,205** persons rescued



**The SARSAT system uses NOAA satellites in low-earth and geostationary orbits to detect and locate aviators, mariners, and land-based users in distress. The satellites relay distress signals from emergency beacons to a network of ground stations and ultimately to the U.S. Mission Control Center (USMCC) in Suitland, Maryland. The USMCC processes the data and alerts the appropriate search and rescue authorities. SARSAT is a part of the international Cospas-Sarsat Program.**

SARSAT search and rescue satellite aided tracking

**The beginnings of Sarsat date back to 1970 when a plane carrying two U.S. congressmen crashed in a remote region of Alaska. A massive search and rescue effort was mounted, but to this day, no trace of them or their aircraft has ever been found. In reaction to this tragedy, congress mandated that all aircraft in the United States carry an Emergency Locator Transmitter (ELT). This device was designed to automatically activate after a crash and transmit a homing signal.**

**Since satellite technology was still in its infancy, the frequency selected for ELT transmissions was 121.5 MHz, the international aircraft distress frequency. This system worked, but had many limitations. The frequency was cluttered, there was no way to verify who the signal was originating from, and most importantly, another aircraft had to be within range to receive the signal.**

**After several years, the limitations of ELTs began to outweigh their benefits. At that time, a satellite based system was conceived. It would operate on a frequency reserved only for emergency beacons (406 MHz), it would have a digital signal that uniquely identified each beacon, and it would provide global coverage.**

**The SARSAT system was developed in a joint effort by the United States, Canada, and France. In the United States, the SARSAT system was developed by NASA. Once the system was functional, its operation was turned over to NOAA where it remains today.**

**As the system began to take hold, more and more emergency beacons found their way onto the market. ELTs continued to operate exclusively on 121.5 MHz, but maritime beacons (EPIRBs) were being built that operated on 406 MHz. The U.S. Coast Guard in their role as maritime search and rescue specialists immediately began to see the benefits of 406 MHz, and in 1990, took proactive steps to bring it into widespread usage. As a result, today there are over 33,000 EPIRBs in the NOAA 406 MHz Registration Database.**

**A similar system, COSPAS, was developed by the Soviet Union. The four nations, United States, Canada, France and the Soviet Union banded together in 1979 to form Cospas-Sarsat. In 1982, the first satellite was launched, and by 1984 the system was declared fully operational.**

**Although Cospas-Sarsat satellites were primarily designed**

**to function on the much improved 406 MHz frequency, they still had to make a provision for the thousands of 121.5 MHz beacons already in use. For this reason, the satellites were designed to receive 121.5 MHz as well.**

**The Cospas-Sarsat organization also continued to grow. The four original member nations have now been joined by 25 other nations that operate 28 ground stations and 15 mission control centers worldwide or serve as Search and Rescue Points of Contact (SPOCs). Cospas-Sarsat continues to be a model of international cooperation. During the eighties, the Soviet Union and the United States were able to put aside their Cold War differences and tackle some tough technical questions. Today, new technology continues to evolve and the member nations are actively incorporating that technology into The Cospas-Sarsat System of Tomorrow**